

In the Specification

Replace Paragraph [0002] with the following:

[0002] The properties and chemical composition of starch and the methods used to prepare aqueous dispersions and solutions of starch are described in Eskins et al. (U.S. Patent Nos. 5,676,994 and 5,882,713, which are herein incorporated by reference).

Briefly, starch is a high polymer composed of repeating glucose units and is typically a mixture of linear and branched polymers, i.e., amylose and amylopectin. Cornstarch is the most plentiful and least expensive of all the commercial starch varieties.

Although normal food grade cornstarch contains about 25% amylose by weight, commercial varieties of cornstarch are available that contain 0% amylose (waxy cornstarch) and about 50% and 70% amylose by weight (high amylose cornstarch). Normal cornstarch is the least expensive starch variety and is thus the preferred starch for the purposes of this invention. Starch occurs in living plants as granules ranging from about 5 to 40 microns in diameter, depending upon the plant source. These granules are essentially insoluble in water at room temperature; however, a significant amount of starch begins to dissolve and diffuse out of the granule matrix as the temperature reaches about 70°C, which is the approximate gelatinization temperature. Although water-solubility increases with temperature, starch granules do not dissolve completely, even at 100°C; and a major portion of

a<sup>1</sup> the starch remains as highly swollen but insoluble granule fragments. True solutions of starch in water, with no remaining insoluble material, are difficult to prepare using conventional batch-cooking techniques; and autoclaves are typically required for batch cooking. However, starch solutions are easily prepared on a continuous basis by passing aqueous dispersions of starch through a steam jet cooker at elevated temperatures and pressures. This process has been used commercially for decades to prepare starch solutions for industrial applications and is discussed in more detail in Eskins et al. (U.S. Patent Nos. 5,676,994 and 5,882,713, *supra*) and also in an article by R.E. Klem and D.A. Brogly (Pulp & Paper, **55**: 98-103, May, 1981). Dissolved molecules of starch (especially amylose) tend to associate with one ~~other~~ another through hydrogen bond formation and form gels and precipitates when solutions are cooled. This property is commonly known as retrogradation and is an inherent property of all starch pastes and solutions.

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Replace Paragraph [0017] with the following:

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a<sup>2</sup> [0017] The starch-coated plastics of this invention are characterized by the appearance of a water-wet surface. Few, if any, discrete water droplets appear on the wet plastic surface; and the surface remains substantially wet (i.e., water will not form beads and run off), even when the plastic article is held in

a vertical position. A water-wet surface is also indicated by contact angle measurements. That is, water droplets on starch-coated plastics of the invention are characterized by a relatively small contact angle as compared to water droplets on uncoated surfaces. After drying, starch-coated plastic surfaces exhibit a frosty appearance due to deposition of starch. The presence of starch can also be identified by its infrared spectrum and also by the characteristic blue color that results from treatment of coated films with a dilute aqueous solution of iodine/potassium iodide. When starch coatings ~~becomes~~ become excessively heavy, they tend to be non-uniform (i.e., some areas of the plastic surface are more heavily coated than others). A disadvantage of heavy starch coatings is their tendency to flake off the plastic surface, when the starch-coated article is bent or flexed. Conversely, thin starch coatings remain firmly attached after drying and are separated from the plastic surface only by vigorous rubbing. Scanning electron microscopy shows that starch is deposited onto the plastic surface as nodules with diameters of approximately 1 micrometer or less. Under a dissecting light microscope, the starch appears as a distinct thin layer covering the plastic surface. In general, the level of application should be at least about 0.01 mg starch/cm<sup>2</sup> of plastic, and less than about 1 mg starch/cm<sup>2</sup> of plastic. Preferably, the level of application will be at least about 0.02

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mg starch/cm<sup>2</sup> of plastic, and less than about 0.1 mg starch/cm<sup>2</sup> of plastic in order to yield highly adherent coatings.

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